CLAIMS

What is claimed is:

1.   A method for detecting safe driving behavior in a vehicle, said method comprising:

obtaining information regarding at least one parameter that defines movement of said vehicle;

obtaining information about at least one road segment located in an approximate vicinity of said vehicle;

determining a rated speed limit for said road segment;

determining a speed for said vehicle traveling on said road segment; and

generating a speed limit violation event if said speed of said vehicle exceeds said speed limit for said road segment.

2.   The method as set forth in claim 1, wherein generating a speed limit event comprises:

generating a time stamp that identifies a time for said speed limit event; and

generating a location stamp that identifies a location that said speed limit event occurred.

3.   The method as set forth in claim 1, wherein generating a speed limit event further comprises determining whether said speed of said vehicle exceeds said speed limit for said road segment for a predetermined time duration.

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4.   The method as set forth in claim 1, wherein obtaining information regarding at least one parameter that defines movement of said vehicle comprises:

obtaining longitudinal acceleration data from an accelerometer; and

5   processing said longitudinal acceleration data to determine said speed for said vehicle.

5.   The method as set forth in claim 1, wherein obtaining information regarding at least one parameter that defines movement of said vehicle comprises obtaining said speed for said vehicle from a global positioning system receiver.

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6.   The method as set forth in claim 1, wherein obtaining information about at least one road segment comprises:

storing a map database in said vehicle; and

extracting said information about said road segment from said map database.

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7.   The method as set forth in claim 6, wherein extracting said information about said road segment comprises:

extracting a plurality of road segment candidates from said map database in a vicinity of said vehicle location; and

20   evaluating said road segments to determine a road segment that best fits a location for said vehicle.

8.   The method as set forth in claim 1, wherein obtaining information regarding at least one parameter that defines movement of said vehicle comprises obtaining vehicle location and vehicle heading.

5   9.   The method as set forth in claim 1, further comprising transmitting said speed limit violation event from said vehicle to a server.

10.   An event detection module for a vehicle comprising:

device for obtaining information regarding at least one parameter that defines
10   movement of said vehicle;

map database for obtaining information about at least one road segment located in an approximate vicinity of said vehicle; and

processor, coupled to said device and said map database, for determining a rated speed limit for said road segment, for determining a speed for said vehicle
15   traveling on said road segment, and for generating a speed limit event if said speed of said vehicle exceeds said speed limit for said road segment.

11.   The event detection module as set forth in claim 10, wherein said speed limit event comprises a time stamp that identifies a time for said speed limit event and a location
20   stamp that identifies a location that said speed limit event occurred.

12.   The event detection module as set forth in claim 10, wherein said processor further for determining whether said speed of said vehicle exceeds said speed limit for said road segment for a predetermined time duration.

5   13.   The event detection module as set forth in claim 10, wherein said device comprises an accelerometer for generating longitudinal acceleration data.

14.   The event detection module as set forth in claim 10, wherein said device comprises a global positioning system receiver for determining said speed for said vehicle.

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15.   The event detection module as set forth in claim 10, said processor further for extracting a plurality of road segment candidates from said map database in a vicinity of said vehicle location, and for evaluating said road segments to determine a road segment that best fits a location for said vehicle.

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16.   The event detection module as set forth in claim 10, wherein said device comprises a gyroscope for determining a vehicle heading.

17.   The event detection module as set forth in claim 10, wherein said device
20   comprises a global positioning system receiver for determining vehicle location.

18.   A system comprising:

event detection module for a vehicle comprising:

device for obtaining information regarding at least one parameter that defines movement of said vehicle;

map database for obtaining information about at least one road segment located in an approximate vicinity of said vehicle;

5   processor, coupled to said device and said map database, for determining a rated speed limit for said road segment, for determining a speed for said vehicle traveling on said road segment, for generating a speed limit event if said speed of said vehicle exceeds said speed limit for said road segment, and for transmitting said speed limit violation event

10   from said vehicle; and

server for receiving said speed limit violation event from said vehicle and for processing said speed limit violation to generate a driver safety profile.